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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,830	12/29/2003	Ga-Lane Chen		7172

25859 7590 07/28/2006

WEI TE CHUNG
FOXCONN INTERNATIONAL, INC.
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EXAMINER

DOWLING, WILLIAM C

ART UNIT PAPER NUMBER

2851

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,830

Applicant(s)

CHEN ET AL.

Examiner

William C. Dowling

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 62106.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/21/06 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gove et al. (5,489,952).

Gove et al. teaches the direct illumination of a micromirror spatial light modulator (118) with light from a light source (120). Modulated light is projected through projection lens (124) onto a display surface (128). As noted in Column 6 Lines 29-31 the micromirrors are electromechanically deflected. Deflection occurs by deflecting mirrors in an on state direction in which light reaches a projection lens and an off state direction in which no light reaches the projection lens, resulting in a black state. It is noted that the body of Claim 1 contains no color filter means by which to form a color image. Such

is contained only within the preamble and thus does not form a limitation of the claim.

Therefore the claims read upon a monochrome system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-7, 10, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gove et al. in view of Hornbeck (5,583,688).

Gove et al. do not specify particulars of a DMD device.

Hornbeck (5,583,688) teaches a known structure of a DMD device including a metal oxide semiconductor layer (316), a metal layer (308), a torsion layer (304) and a silicon substrate (318) and address electrodes (314) formed on the layers. Aluminum is deposited on an outer surface to form mirrors (43) Fig 4f. Pulse width modulation is also provided (Column 7 Line 2)

It would have been obvious to one skilled in the art to modify the optical arrangement of Gove et al. for use with any of a number of known types of deformable mirror devices such as the one having a particular structure as shown by Hornbeck because such modification is simply the substitution of one type of reflective modulator for another within a known optical arrangement.

6. Claims 8-9, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (5,612,814) in view of Gove et al. (5,489,952).

Gove et al. teaches the direct illumination of a micromirror spatial light modulator (118) with light from a light source (120). Modulated light is projected through projection lens (124) onto a display surface (128). As noted in Column 6 Lines 29-31 the micromirrors are electromechanically deflected. Deflection occurs by deflecting mirrors in an on state direction in which light reaches a projection lens and an off state direction in which no light reaches the projection lens, resulting in a black state.

Gove does not teach the use of color filters in conjunction with the micromirrors to form full color images.

Yang discloses a DMD image projection device comprising:

a micro-mirror unit (220, 250) having a plurality of deflectable micromirrors (230) switchable between on and off states where one state reaches a projection lens (80) and the other does not;

a color filter (220) having three colors allowing for 8 states of projection.

It would have been obvious to one skilled in the art at the time of the invention to modify the device of Gove et al. by the addition of a color filter adjacent micromirrors, as taught by Yang, in order to form a full color modulator system with direct illumination, and avoid the necessity of providing a sequential color filter.

7. Claims 13-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Gove et al. and Yang in view of Hornbeck.

The combination of Gove et al. and Yang do not specify particulars of a DMD device

Hornbeck (5,583,688) teaches a known structure of a DMD device including a metal oxide semiconductor layer (316), a metal layer (308), a torsion layer (304) and a silicon substrate (318) and address electrodes (314) formed on the layers. Pulse width modulation is also provided (Column 7 Line 2)

It would have been obvious to one skilled in the art to modify the optical arrangement of Gove et al. for use with any of a number of known types of deformable mirror devices such as the one having a particular structure as shown by Hornbeck because such modification is simply the substitution of one type of reflective modulator for another within a known optical arrangement.

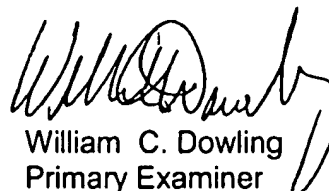
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Dowling whose telephone number is 571-272-2116. The examiner can normally be reached on MON-THURS.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-1750. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William C. Dowling
Primary Examiner
Art Unit 2851

wcd